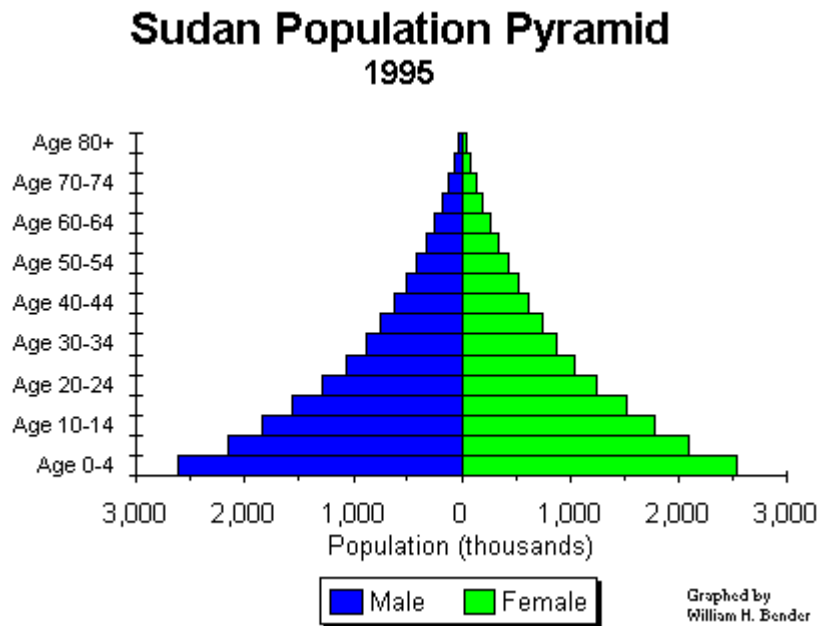


# Population Pyramid

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## Population Pyramid

A population pyramid is a double bar graph used to show the structure of the population, typically showing the age/sex structure of the population. They look something like:



Source: [http://www.hewett.norfolk.sch.uk/curric/NEWGEOG/Africa/sud\\_pyra.gif](http://www.hewett.norfolk.sch.uk/curric/NEWGEOG/Africa/sud_pyra.gif)

## Step 1: Open and EDIT the spreadsheet file

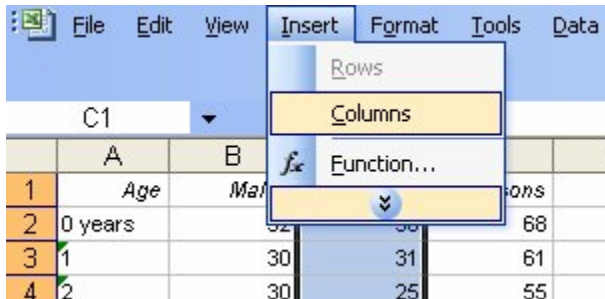
Open the MS Excel file 'Pyrmont Population by Age'. You will notice that it consists of four columns of data:

	A	B	C	D
1	Age	Males	Females	Persons
2	0 years	32	36	68

Because later we will need to create our Population Pyramid in two sections, we will need to edit the spreadsheet by inserting a duplicate copy of Column A 'Age Labels' between Columns B & C. To do this, first, select Column C by clicking in the header cell "C", notice that the entire column gets highlighted.

	A	B	C	D
1	Age	Males	Females	Persons
2	0 years	32	36	68
3	1	30	31	61
4	2	30	25	55
5	3	32	23	55
6	4	32	23	55
7	5	26	23	49
8	6	23	24	47
9	7	24	20	44

Then select the 'Columns' option from the 'Insert' menu.

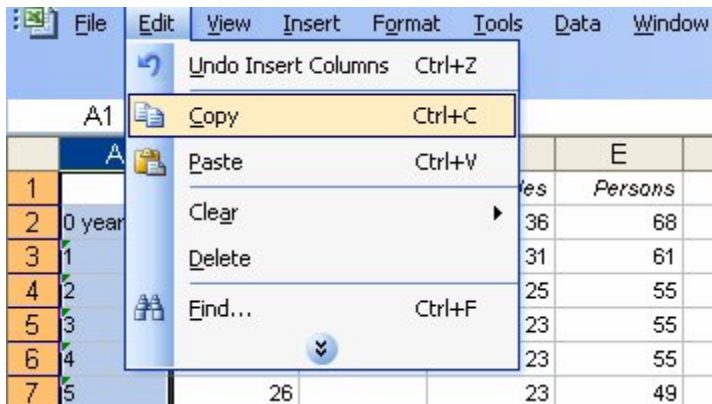


This will insert a new blank column between the "Males" and the "Females" columns.

	A	B	C	D	E
1	Age	Males		Females	Persons
2	0 years	32		36	68
3	1	30		31	61
4	2	30		25	55
5	3	32		23	55
6	4	32		23	55

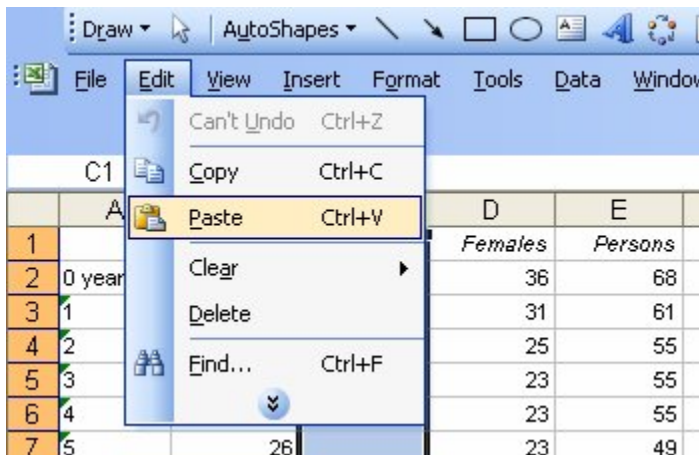
Select the “Age” column by clicking on the table header in the “A” cell.

Then select the “Copy” function from the “Edit” menu.



Select the empty column (new column C) by clicking on “C”

Then select the “Paste” option from the “Edit” menu.



Your spreadsheet will now look like this:

	A	B	C	D	E	F
1	<i>Age</i>	<i>Males</i>	<i>Age</i>	<i>Females</i>	<i>Persons</i>	
2	0 years	32	0 years	36	68	
3	1	30	1	31	61	
4	2	30	2	25	55	
5	3	32	3	23	55	
6	4	32	4	23	55	
7	5	26	5	23	49	

**Save your file at this stage, then continue.**

## Step 2: Create Bar Charts


Before we create our bar charts which will be left and right-hand side of our population pyramid, we will first need to identify the data we want to chart. We will start by charting the Males.

**A.** Select the labels and data for the “Age” and “Males” columns in the cell range A1:B86. To do this, position the mouse cursor in cell A1, hold down the left key, then move the mouse so that you highlight everything in Columns A and B for **Rows 1 to 86**.

Your spreadsheet should now look like the one below:

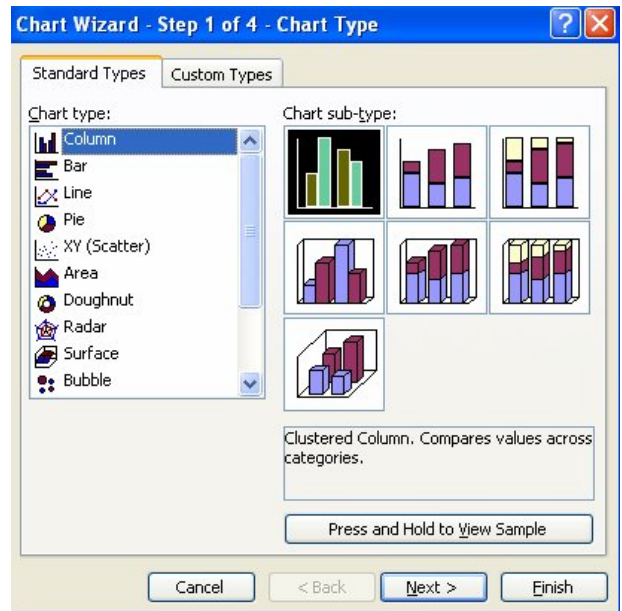
	A	B	C	D
1	Age	Males	Age	Females
2	0 years	32	0 years	36
3	1	30	1	31
4	2	30	2	25
5	3	32	3	23
6	4	32	4	23
7	5	26	5	23
8	6	23	6	24
9	7	21	7	20
10	8	22	8	25
11	9	13	9	17
12	10	24	10	22
13	11	24	11	5
14	12	17	12	12
15	13	19	13	27
16	14	30	14	18
17	15	27	15	14
18	16	31	16	23
19	17	26	17	26
20	18	46	18	52
21	19	65	19	95
22	20	97	20	99
23	21	85	21	127

**B.** Now click the “Chart Wizard” icon 

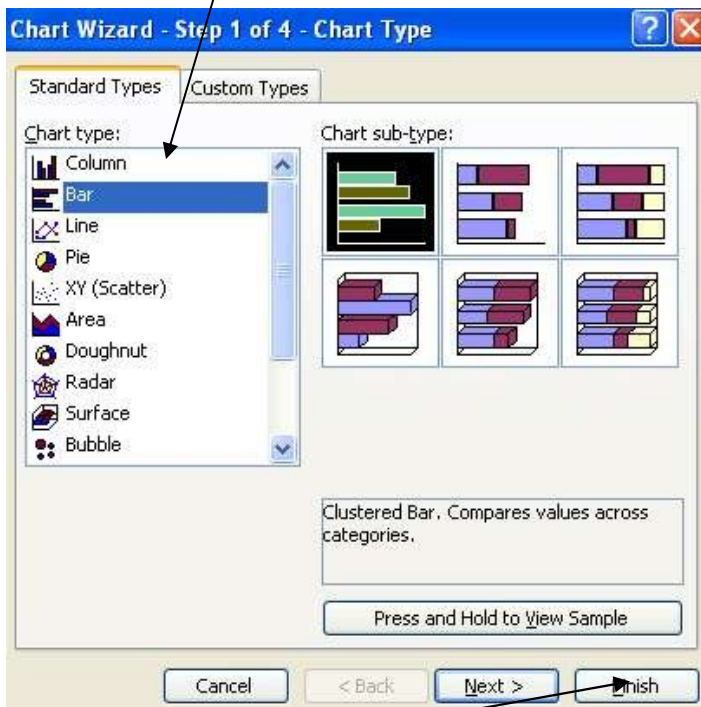
The “Chart Wizard” icon  is part of the ‘Standard’ Toolbar in MS Excel. If you cannot see the icon, use the View, Toolbars menu and make sure the Standard Toolbar option is selected.



The Chart Wizard window will appear.

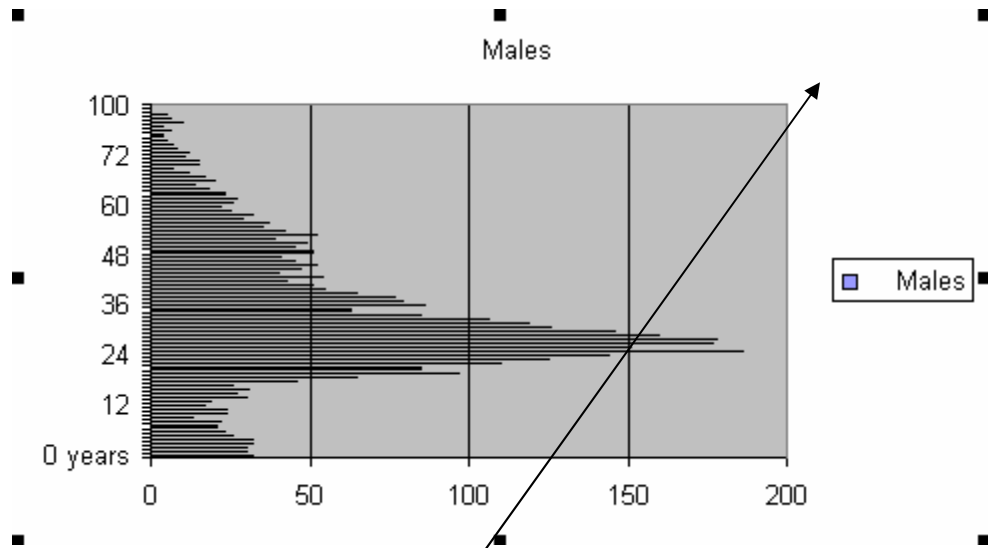


C. Select the 'Bar' Chart type option in the left hand selection panel, and then



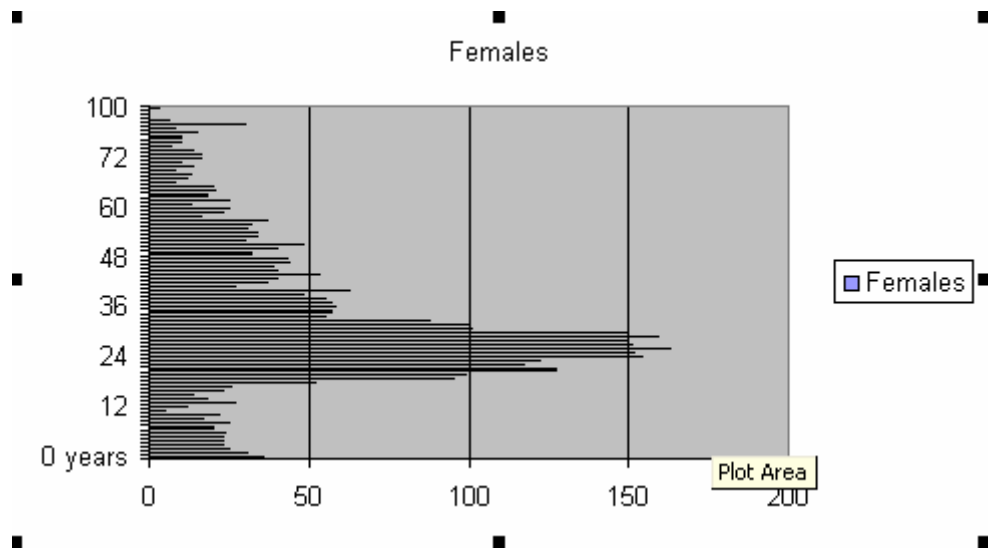
D. Click Finish

The following new window will appear across the spreadsheet:



At this stage 'move' the graph out of the way in the spreadsheet by placing your cursor over the image in the top right corner area, hold down the left mouse and drag the image further down the spreadsheet page. (*Don't place the cursor over the image of the chart itself as that is a separate element. If you don't move the image on the first go, simply click in the spreadsheet outside the image, then click on the image to bring up the corner 'buttons' and try again*).

Now, **repeat Steps A to D** to produce a bar chart of the # Females in the population by selecting **Cells C1:D86** of the spreadsheet.

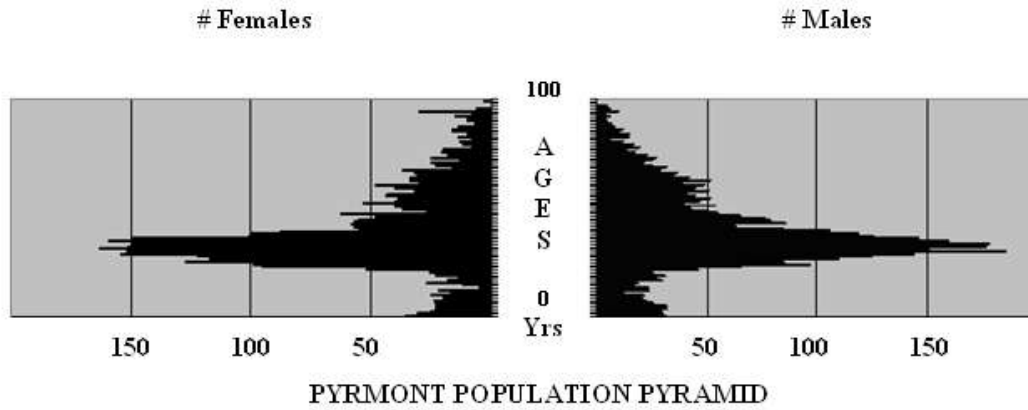


SAVE your spreadsheet. Call it something like MyNamePyrmontPopulatation.

Don't close MS Excel. You will need the images for the next step.

**Save your file.**

The next two steps in the process can be set as “Challenges” to differentiate the curriculum for more able students. Show the students the outcome they need to produce:



Leave it to the students to solve the problem of how to construct the pyramid from the graphical elements they have produced in MS Excel.

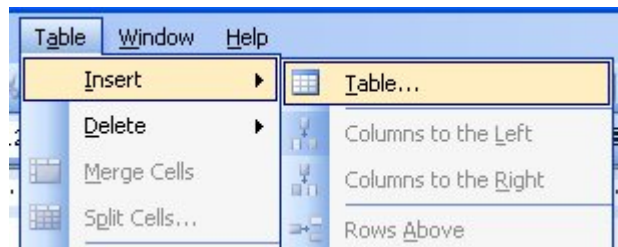
Read on for one way to produce a Population Pyramid.

### Steps 3 & 4

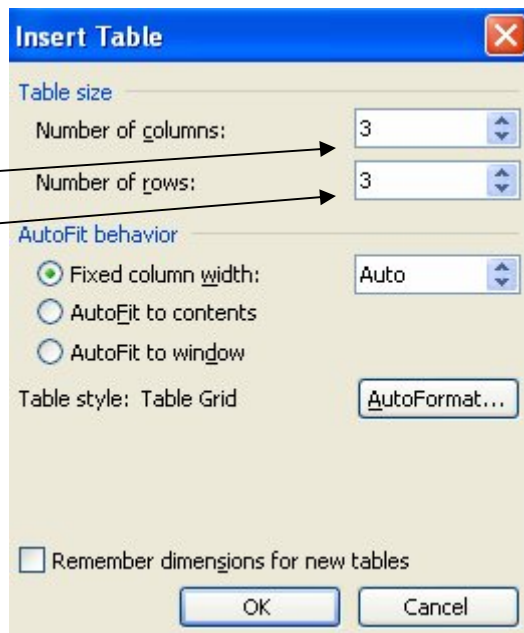
Use MS Word and MS Paint to create the pyramid

## Step 3: Use MS Word to construct a table where the pyramid can be built

Use the Table, Insert commands of MS Word .



Create a Table with three Columns and three Rows



Start preparing the table as the scaffold for the diagram of the population Pyramid you intend to build:

#Females	100	#Males
“#Females chart will eventually go here”	A	“#Males chart will eventually go here”
	G	
	E	

	S	
	0 Yrs	

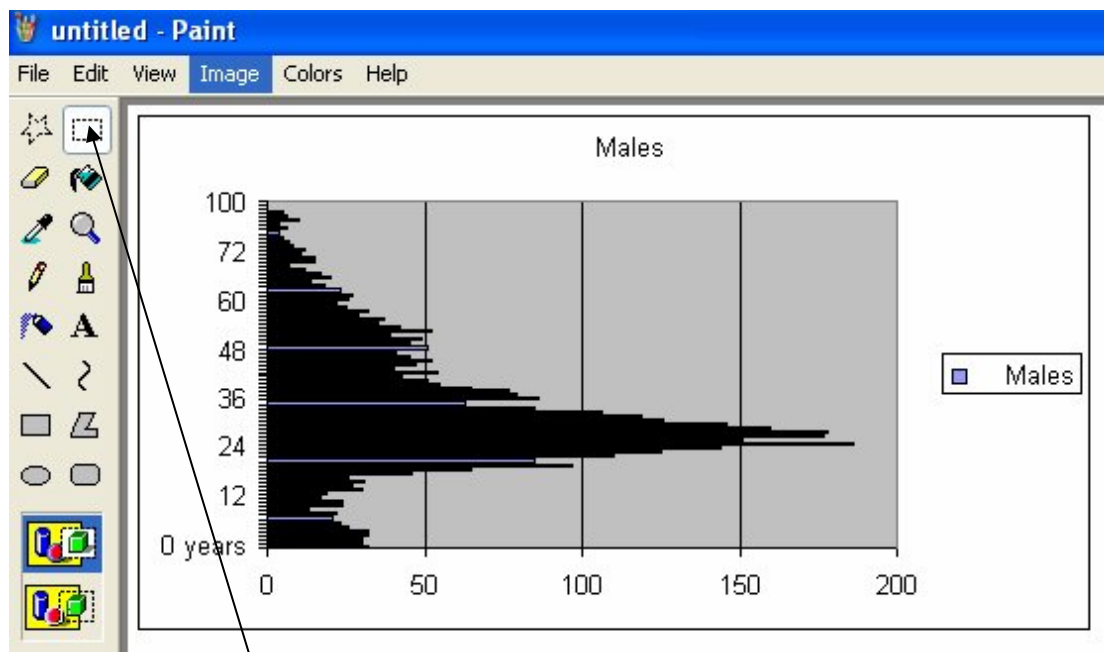
### PYRMONT POPULATION PYRAMID

## Step 4: Use MS Paint to manipulate the charts from Excel

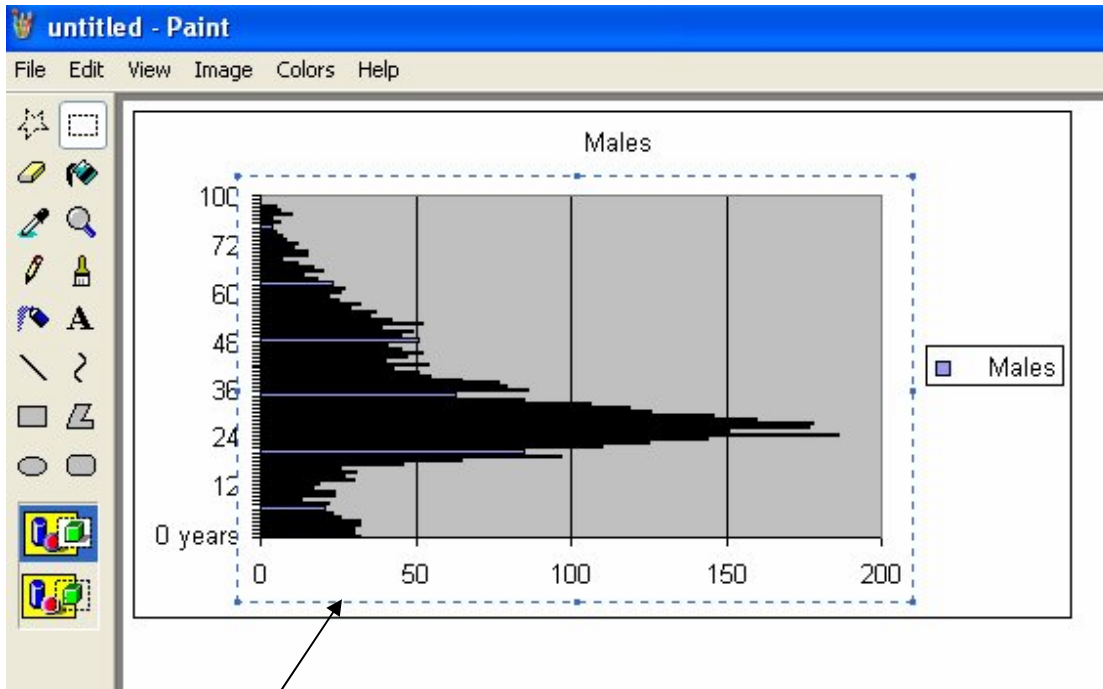
Open MS Paint from the Start, All Program, Accessories menus.

Go into MS Excel and select the #Males Bar Chart by clicking in it. Then use the Edit, Copy command to place a copy of the chart in the computer memory clipboard.

Go back to MS Paint and using the Edit command, Paste a copy of the bar chart into Paint.



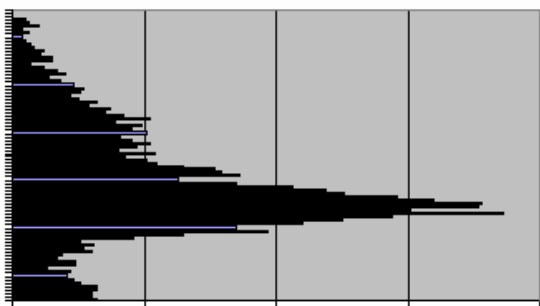
Then, using the 'Select' icon



“select” the portion of the image you want to capture.

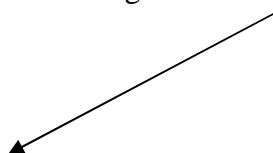
Use the Edit, Copy command to place the selected portion of the image onto the Clipboard.

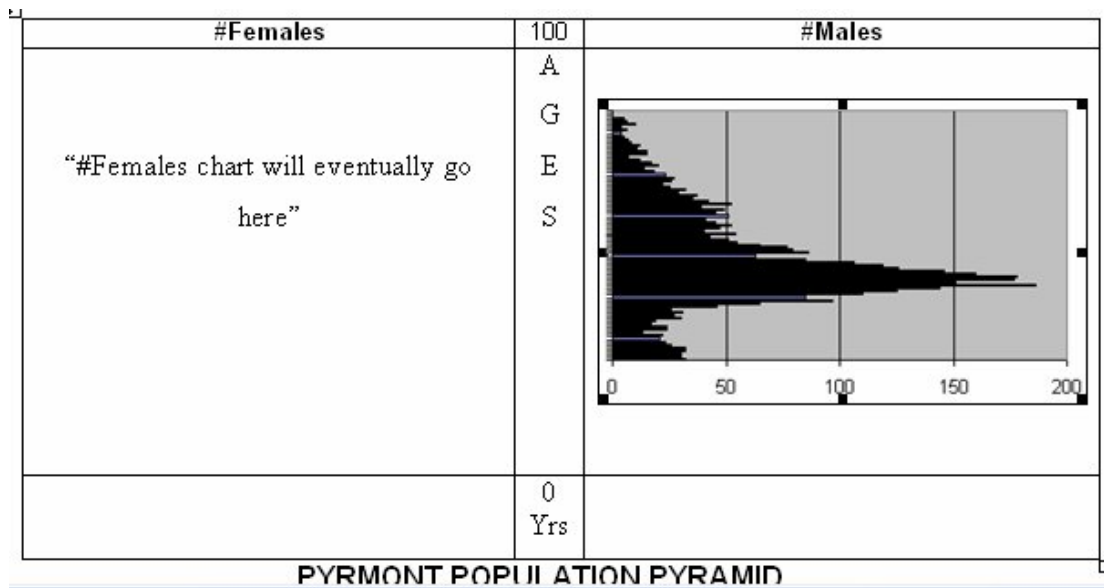
Paste from the clipboard into the table cell where you want the bar chart to be located.

#Females	100	#Males
“#Females chart will eventually go here”	A	
	G	
	E	
	S	
	0 Yrs	

**PYRMONT POPULATION PYRAMID**

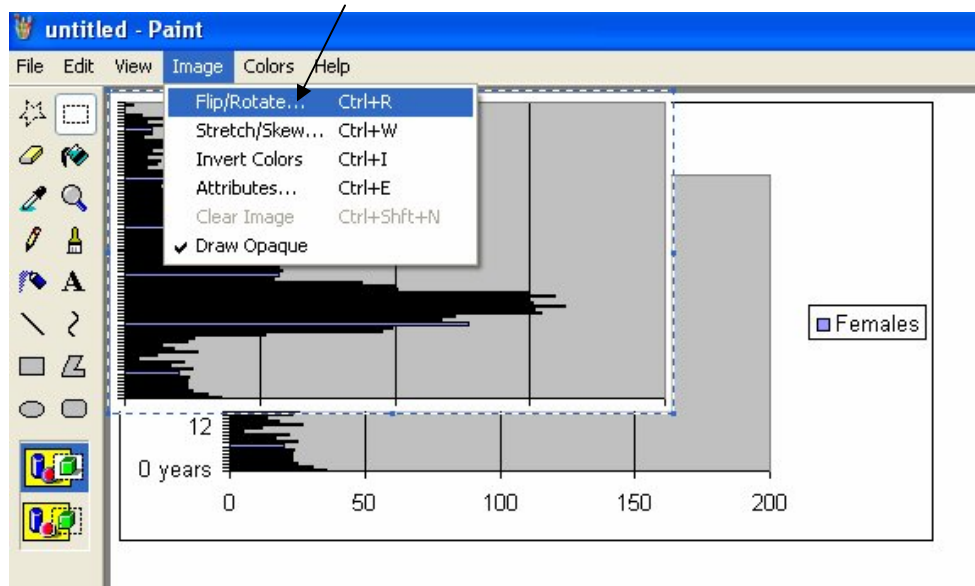
Adjust the size of the bar chart by clicking on it and using the resize cursor to make it smaller.



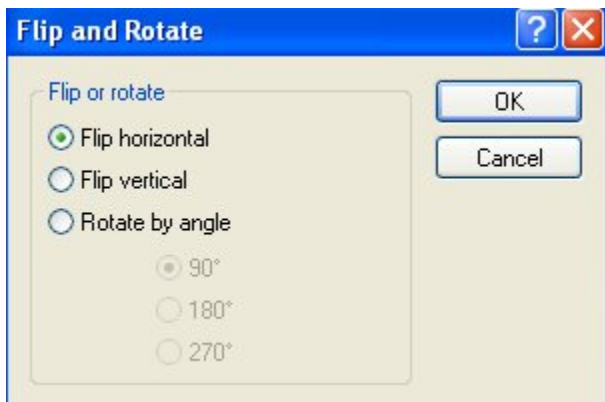


Now go back to MS Excel, select the '#Females' bar chart and copy it to the Clipboard. Now go to MS Paint and Paste from the clipboard. Select the portion of the image that you want to use and copy it back to the Clipboard. Then Paste it back into Paint.

Now use the Image, Rotate/Flip command



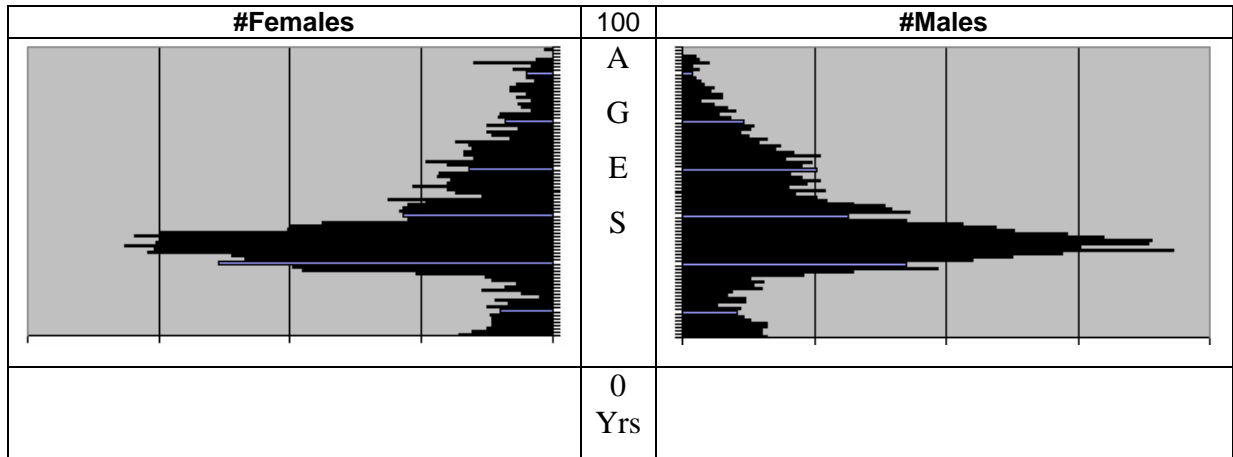
Flip the image 'horizontally' by clicking OK.



Use the Edit, Copy command to capture the rotated image back onto the Clipboard.

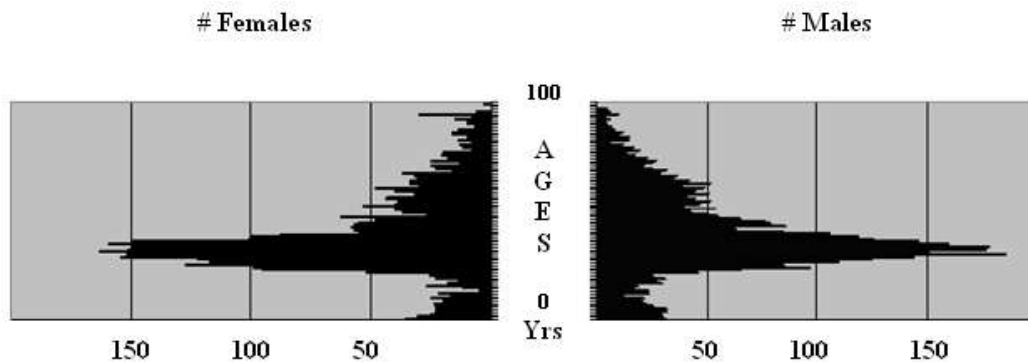
Return to your MS Word table and paste the rotated image into the desired location.

Resize it to make to match the size on the other side of the table.



**PYRMONT POPULATION PYRAMID**

Now it's simply a matter of playing around with the table to produce the final result you are after.



**PYRMONT POPULATION PYRAMID**

## References

[Pyrmont-Ultimo Chamber of Commerce](#)

Resources for this activity include two detailed Community Profile master databases:

· [2001 Census data for the Sydney region](#)